What is claimed is:

1. An optical system comprising:

a MEMS device, including a plurality of elements, which are individually movable; and

a control assembly that is communicatively coupled to the MEMS device and that provides control signals to the plurality of elements for moving the elements, wherein the control signals include feed-forward signals to certain elements that substantially cancel disturbance caused by moving elements.

2. The optical system of claim 1 wherein the plurality of elements comprise micromirrors.

3. The optical system of claim 1 wherein the plurality of elements are arranged in a one-dimensional array.

4. The optical system of claim 1 wherein the plurality of elements are arranged in a two-dimensional array.

5. The optical system of claim 1 wherein each of the plurality of elements is rotatable about at least one axis.

6. The optical system of claim 1 wherein each of the plurality of elements is rotatable about two or more axes.

7. The optical system of claim 1 wherein the control signals comprise DAC voltage values that command corresponding rotational angles in the elements.

8. The optical system of claim 1 wherein the certain elements comprise non-moving elements.

9. The optical system of claim 1 wherein the certain elements comprise a predetermined number of elements adjacent to each side of a moving element.

10. The optical system of claim 9 wherein the predetermined number of elements is based on physical properties of the MEMS device.

11. The optical system of claim 1 wherein the control assembly provides feed-forward control signals to non-moving elements according to the following equation:

$$u_j = \Sigma\text{-}a_{jk}\cdot\Delta u_k\cdot g(\cdot),$$

where element k is a moving element, u_j is a feed-forward control signal to a non-moving element j, a_{jk} is a coupling coefficient from element k to element j, Δu_k is the difference between end and start values, and $g(\cdot)$ is a normalized function characterizing disturbance in non-moving elements.

12. The optical system of claim 11 wherein the summation is taken over all k, where k is an index of moving elements and $a_{kk} = 0$.

13. The optical system of claim 12 wherein $a_{jk} = 0$ for $|j\text{-}k| > N$.

14. The optical system of claim 1 wherein the control assembly provides feed-forward control signals to non-moving elements according to the equation:

$$\mathbf{u} = \mathbf{A}\cdot\Delta\mathbf{u_k}\cdot g(\cdot),$$

where **u** is the feed-forward control signal to non-moving elements, **A** is a matrix of coupling coefficients from moving to non-moving elements, Δu_k is the difference between end and start values, and $g(\cdot)$ is a normalized function characterizing disturbance in non-moving elements.

15. An optical apparatus for canceling disturbance in an array of MEMS mirrors, which are individually switchable, the apparatus comprising:

a controller that is communicatively coupled to the MEMS mirrors and that communicates feed-forward signals to certain mirrors, effective to substantially cancel disturbances caused by switched mirrors.

16. The optical apparatus of claim 15 wherein the mirrors are arranged in a one-dimensional array.

17. The optical apparatus of claim 15 wherein the mirrors are arranged in a two-dimensional array.

18. The optical apparatus of claim 15 wherein each of the mirrors is pivotable about at least one axis.

19. The optical apparatus of claim 15 wherein each of the mirrors is pivotable about two or more axes.

20. The optical apparatus of claim 15 wherein controller is further adapted to provide the control signals to switch the MEMS mirrors.

21. The optical apparatus of claim 20 wherein the control signals comprise DAC voltage values that command corresponding angles in the mirrors.

22. The optical apparatus of claim 15 wherein the certain mirrors are non-switched mirrors.

23. The optical apparatus of claim 15 wherein the certain mirrors comprise a predetermined number of mirrors adjacent to each side of a switched mirror.

24. The optical apparatus of claim 23 wherein the predetermined number of mirrors is based on physical properties of the MEMS mirrors.

25. The optical apparatus of claim 15 wherein the controller provides feed-forward signals to non-switched mirrors according to the following equation:

$$u_j = \Sigma\text{-}a_{jk}\cdot\Delta u_k\cdot g(\cdot),$$

where element k is a switched mirror, u_j is the feed-forward control signal to a non-switched mirror j, a_{jk} is a coupling coefficient from mirror k to mirror j, Δu_k is the difference between end and start values, and $g(\cdot)$ is a normalized function characterizing disturbance in non-switched mirrors.

26. The optical apparatus of claim 24 wherein the summation is taken over all k, where k is an index of switched mirrors and $a_{kk} = 0$.

27. The optical apparatus of claim 26 wherein $a_{jk} = 0$ for $|j\text{-}k| > N$.

28. The optical apparatus of claim 15 wherein the controller provides the feed-forward signals to non-switched mirrors according to the equation:

$$\mathbf{u} = \mathbf{A}\cdot\Delta \mathbf{u_k}\cdot g(\cdot),$$

where **u** is the feed-forward control signal to non-switched mirrors, **A** is a matrix of coupling coefficients from switched to non-switched mirrors, Δu_k is the difference between end and start values, and $g(\cdot)$ is a normalized function characterizing disturbance in non-switched mirrors.

29. A method of canceling disturbance in a MEMS device including a plurality of elements, which are individually movable, the method comprising:

providing feed-forward signals to one or more elements in the MEMS device, the feed-forward signals being effective to substantially cancel disturbance caused by moving elements in the MEMS device.

30. The method of claim 29 wherein the elements comprise micromirrors.

31. The method of claim 29 wherein one or more elements are non-moving elements.

32. The method of claim 29 wherein the one or more elements comprise a predetermined number of elements adjacent to each side of a moving element.

33. The method of claim 32 wherein the predetermined number of elements is based on physical properties of the MEMS device.

34. The method of claim 29 wherein the control assembly provides feed-forward control signals to non-moving elements according to the following equation:

$$u_j = \Sigma\text{-}a_{jk}\cdot\Delta u_k\cdot g(\cdot),$$

where element k is a moving element, u_j is the feed-forward control signal to a non-moving element j, a_{jk} is a coupling coefficient from element k to element j, Δu_k is the difference between end and start values, and $g(\cdot)$ is a normalized function characterizing disturbance in non-moving elements.

35. The method of claim 34 wherein the summation is taken over all k, where k is an index of moving elements and $a_{kk} = 0$.

36. The method of claim 35 wherein $a_{jk} = 0$ for $|j\text{-}k| > N$.

37. The method of claim 29 wherein the control assembly provides feed-forward control signals to non-moving elements according to the equation:

$$\mathbf{u} = \mathbf{A}\cdot\Delta\mathbf{u_k}\cdot g(\cdot),$$

where **u** is the feed-forward control signal to non-moving elements, **A** is a matrix of coupling coefficients from moving to non-moving elements, Δu_k is the difference between end and start values, and $g(\cdot)$ is a normalized function characterizing disturbance in non-moving elements.